Targeting Conservation Practices in Rural and Urban Watersheds

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Targeting

One can find many images that represent ...

-*Why we should target*

-*What can be achieved by targeting*

-*Where targeting is needed*

But remarkably little information is available on <u>how</u> to target

Targeting

- *Targeting is a relatively old concept*

- *Few assessments of targeting effectiveness!!!!!*

- *Targeting has different meaning to different groups*

   4 groups dominate this arena
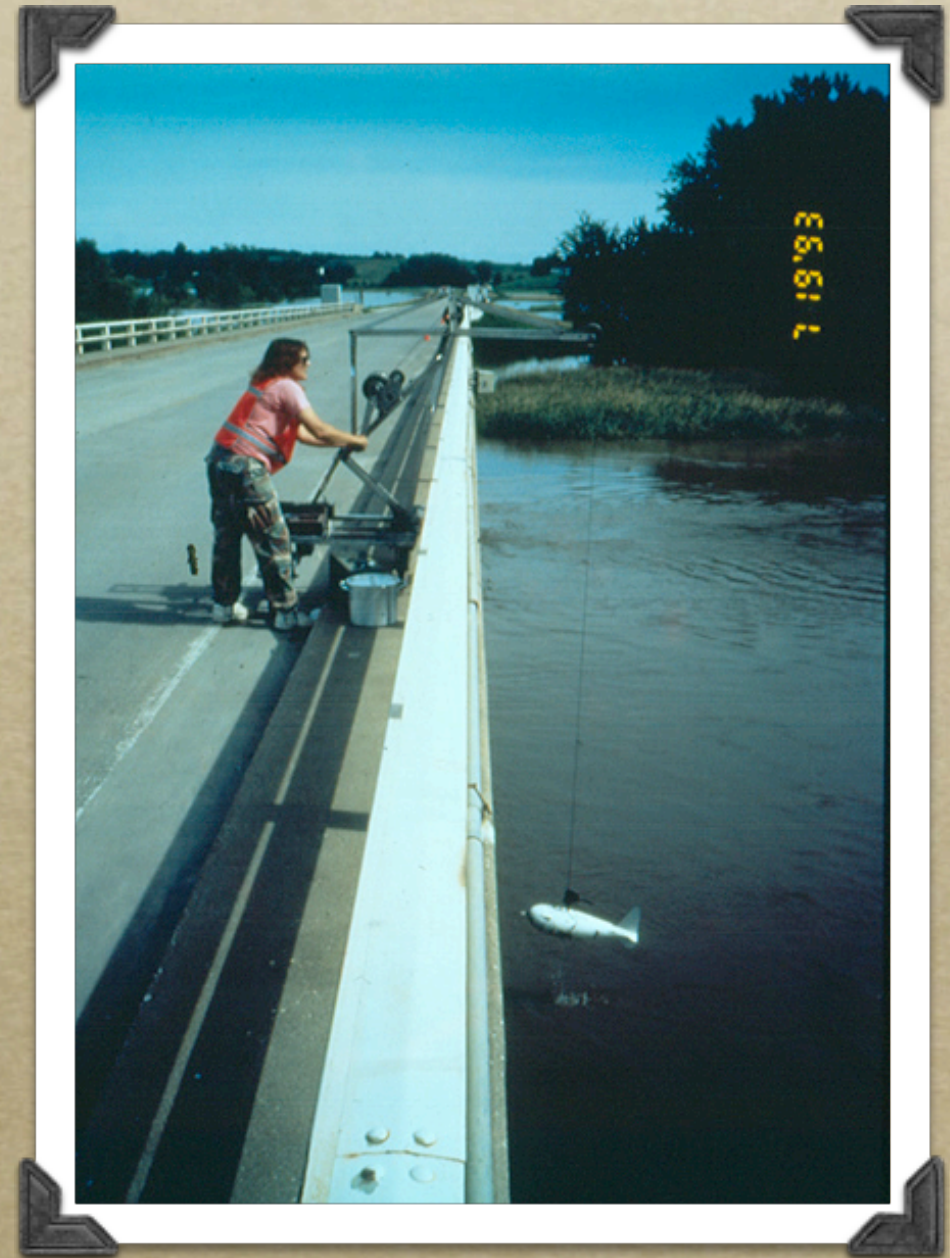
Targeting 1

Myopic White Horse Environmentalist

- *Focus on own special agenda and issue*

- *Strong moral themes in group positions*

- *Failure of resolution of targeted issue due to conspiracy*

Robert Dawson   *Rearing Horse Silhouette   Leslie Levy Publishing*
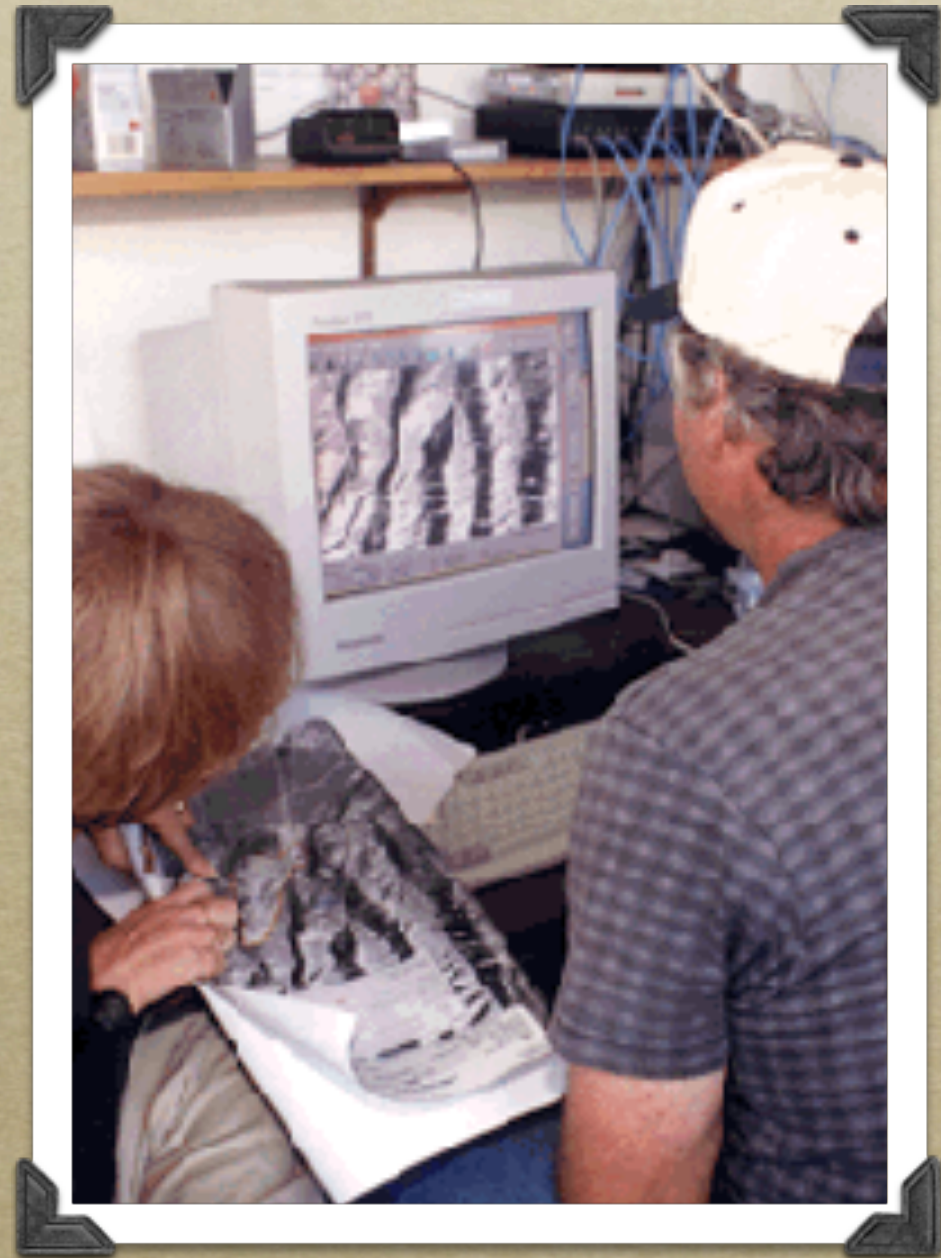
Targeting 2

Agricultural Scientist

- *Strive to achieve experimental control*

- *Focus on data adequacy*

- *Targets locations where testing can occur*

Targeting 3

Conservation Manager

- *Program driven; an end in itself*

- *Targets to meet program requirements up to staff capacity*

- *Targets sites where programs can be implemented*
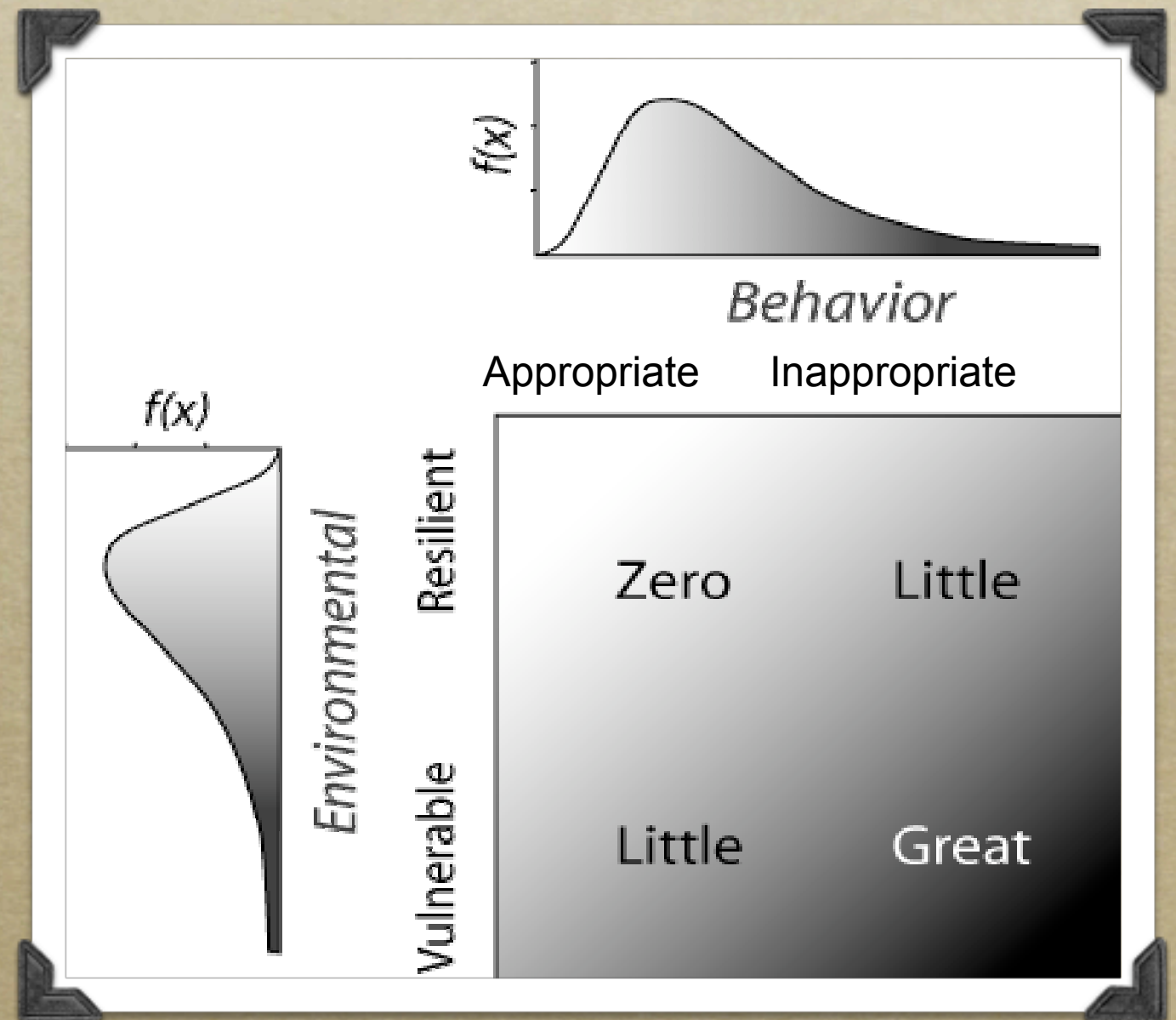
Targeting - 4

Conservationist

○ *Focus is on <u>solving</u> environmental problems*

○ *Programs & data are a means to an end*

○ *Targeting - seeks out source of problems and only then defines solution*

Assuming you are conservationists

Targeting the Vulnerable

- *Vulnerability is a relational concept referring to <u>both</u> natural & human processes*

- *Targeting must address both the natural & human causes of degradation*

- *Targeting should address disproportionality*

Targeting the Vulnerable

- *What constitutes an appropriate behavior depends on the setting or the time in which the behavior occurs.*

- *What is appropriate in one setting or time can be inappropriate in another setting or time .. no value judgments (i.e., bad actors).*

- *The social aspect of targeting is finding out why an inappropriate behavior is occurring.*

Targeting the Vulnerable

This amazingly simple concept is rare in the water quality world.

- *Instead, "targets" are WQ parameters to be achieved…*

- *Large geographic areas…*

- *Types of situations (e.g., CAFOs)…*

The New Barefoot Grass company.

Targeting Approaches

- *Targeting implies a limited use of scarce resources toward specific situations*

- *While biophysical data is widely available - but never adequate - social data is largely nonexistent*

- *There will never be sufficient resources to collect social inventories or populations*
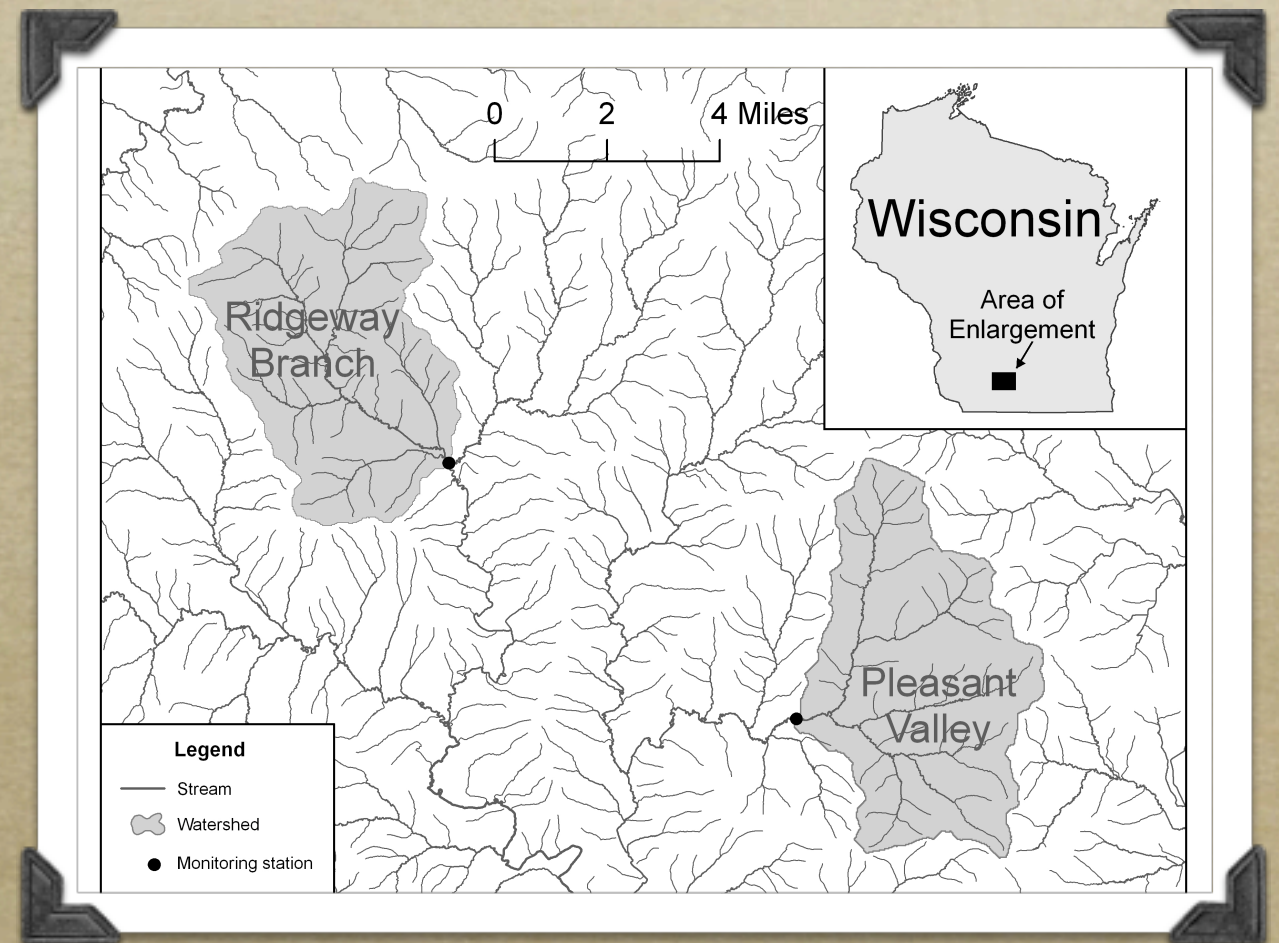
Targeting Approaches

- *Consequently, targeting is the process of analyzing the biophysical data in a way that limits or restricts situations where social data needs to be collected*

- *The biophysical guides the application of the social*
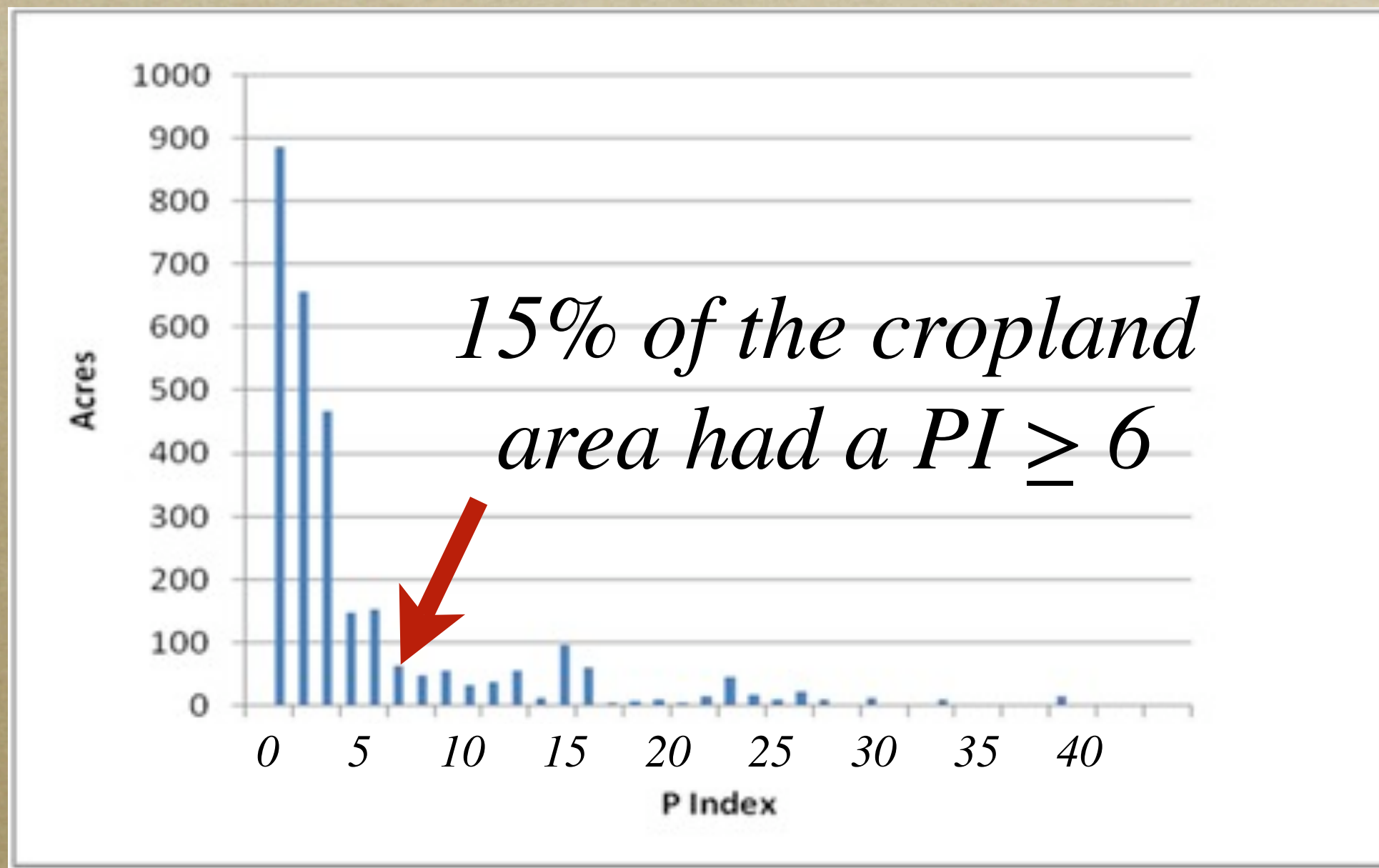
Targeting in Rural Setting

Example

- *Both high-ranked WBI watersheds*

- *Focus is on total phosphorus*
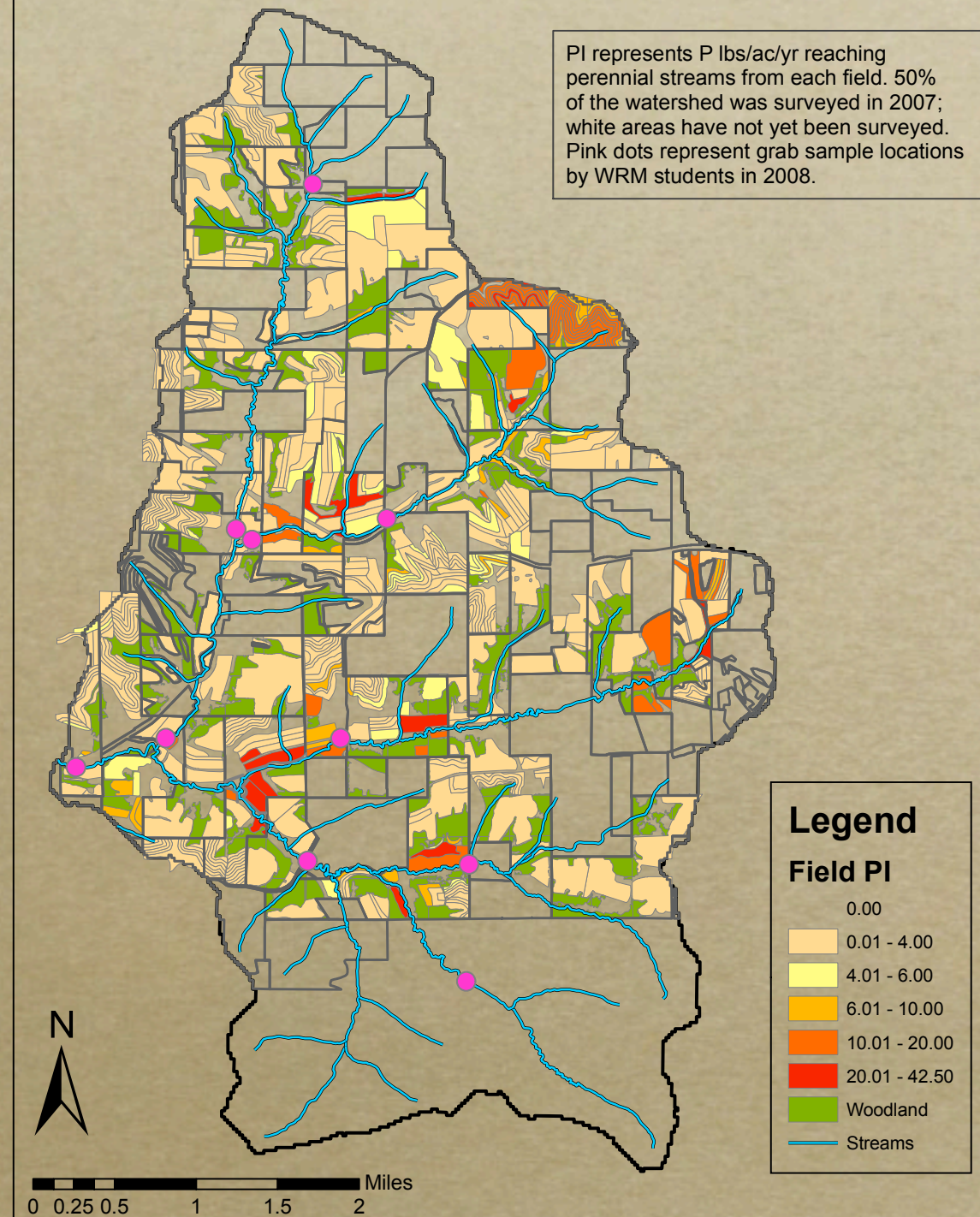
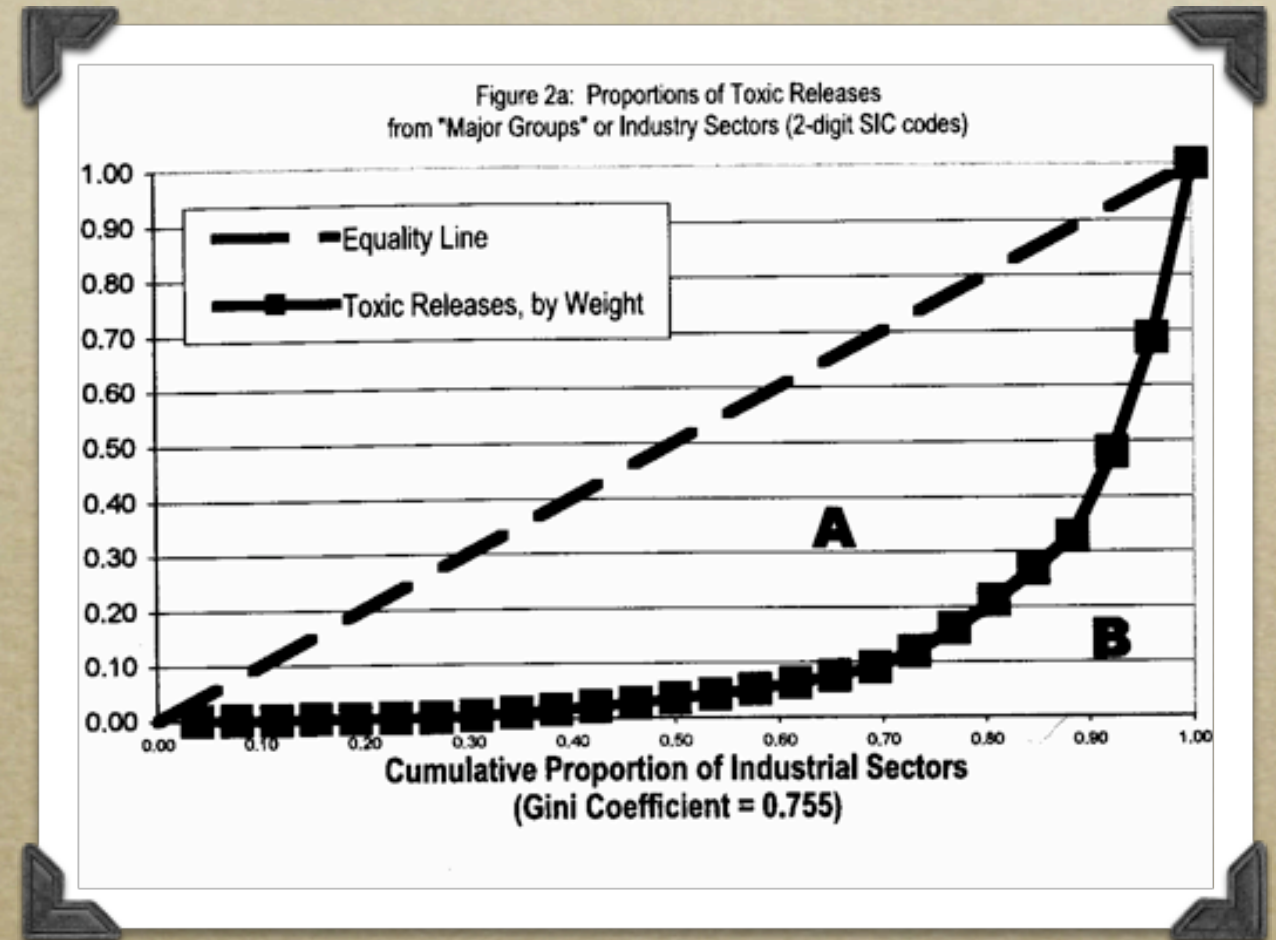- *Conduct farm assessment in vulnerable areas*

Targeting

Example

15% of the cropland area had a PI ≥ 6

Targeting

Field P Indices in Pleasant Valley

PI represents P lbs/ac/yr reaching perennial streams from each field. 50% of the watershed was surveyed in 2007; white areas have not yet been surveyed. Pink dots represent grab sample locations by WRM students in 2008.

Legend

Field PI

- 0.00
- 0.01 - 4.00
- 4.01 - 6.00
- 6.01 - 10.00
- 10.01 - 20.00
- 20.01 - 42.50
- Woodland
- Streams

N

0   0.25 0.5   1   1.5   2   Miles

Targeting

The remaining significant research question is the magnitude of decrease in degradation that can be achieved by targeting disproportionality

Figure 2a: Proportions of Toxic Releases from "Major Groups" or Industry Sectors (2-digit SIC codes)

Targeting in Urban Settings

- *Code and municipal zoning determines the vast majority of water investments*

- *"Shot-gunning" I&E programs and working with receptive audiences is the norm*
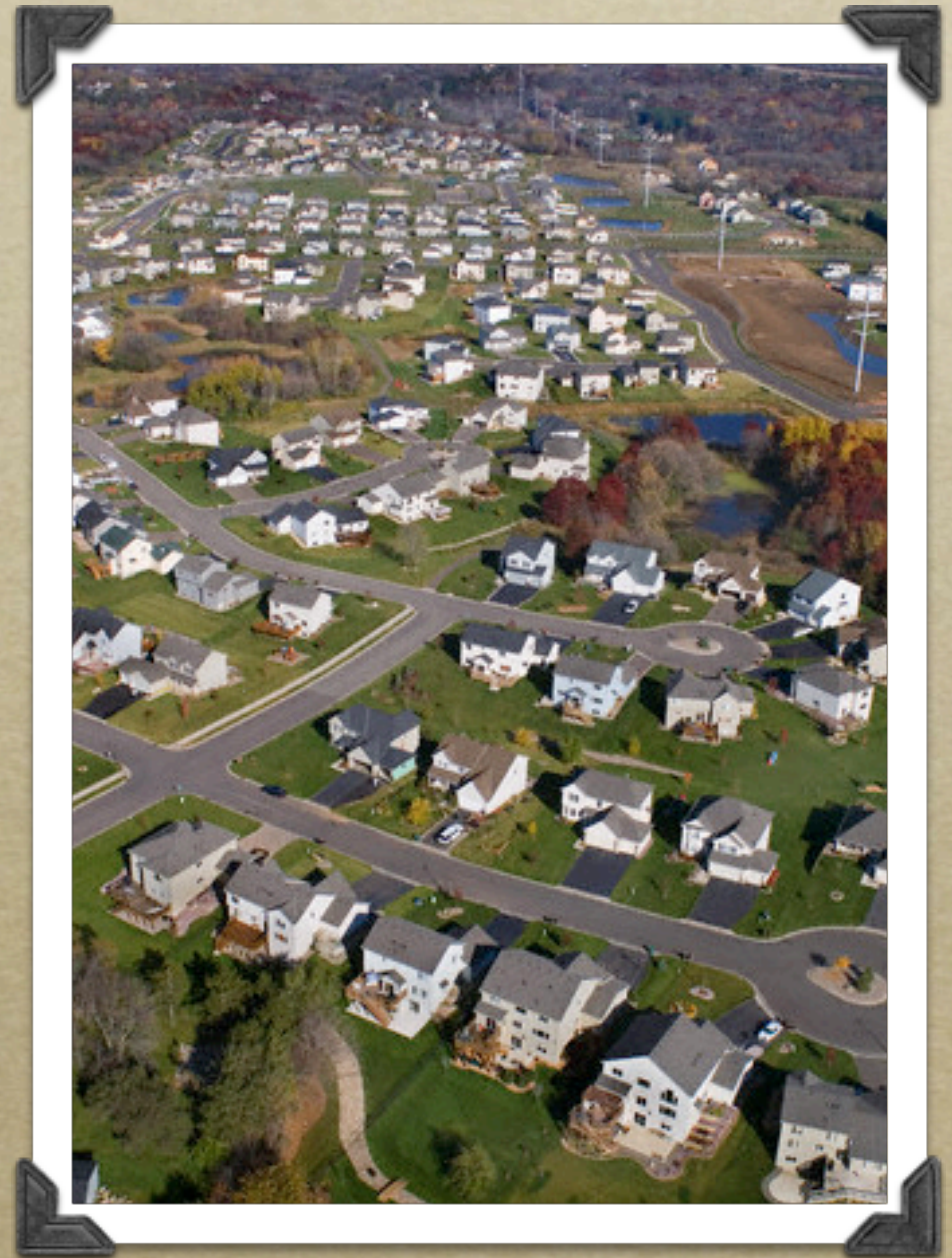
Urban Settings

Targeting in Urban Settings

An Example

- *Assume you wanted to reduce the "flashiness" of a hydrologic system.*

- *Assume you wanted to do this with grassy swales and rain gardens.*

- *How would you <u>target</u> this effort?*

Targeting in Urban Settings

- *Biophysical - use DEM to assess concentrated flow paths*

- *Determine what practices might work along flow path*

- *Target residents in flow path on acceptability of selected practices*

- *Promote practices based on resident responses.*

Targeting 5-Step Summary

1. *Targeting is the process of focusing your scarce resources to solve a problem.*

2. *Natural resource problems are characterized by disproportionality.*

3. *Targeting means using available biophysical data to identify vulnerable situations.*

Targeting 5-Step Summary

4. *Biophysical vulnerability dictates where one needs to assess the appropriateness of current behaviors.*

5. *Understanding why inappropriate behaviors are occurring in vulnerable areas becomes the basis for designing the remedial or intervention effort.*

Thank you ....